



# How to Evaluate Educational Software and Websites

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There are approximately 20,000 educational software packages and many thousand educational websites throughout the world. How can you decide what is good and what is a waste of time?

There are two basic approaches. One approach is to use guides to software and “portals” to websites that list resources judged to be of merit. The second is to undertake your own assessment of the software and websites. When doing this you might use criteria previously prepared by other scholars and organizations, you might adapt those criteria to your organization’s own priorities, or you might develop new criteria.

Early assessments of educational software focused on the content covered and the ease of using them. When critics noted that the instructional strategies in early software were often simplistic and dysfunctional, more attention was given to the pedagogical strategies used. More recently, there have been efforts to judge how well the software and websites comply with national or state curriculum standards.

Still another focus for assessment is whether students using the software or website learn more than students who aren’t using it. That requires an impact evaluation, usually with pre and post measurement of knowledge and skills for a substantial number of users and comparable non-users. Such evaluations have been undertaken occasionally since the early years of instructional software in the 1960s, but they are expensive and rare.

The following discussion is limited to assessments that don’t involve formal impact evaluations. Any organization that is considering substantial investments in educational software or websites is advised to select the resources with the aid of existing or easily conducted assessments, and then to test the resource out on a modest scale with impact evaluation. Research tends to show that if good software and websites are integrated into teaching, student attendance and engagement increase, and learning often does also, but those effects depend on the quality of the resources and their suitability for the circumstances.

## Guides to Software and Portals to Websites

Existing guides and portals can save considerable effort in identifying potentially useful software and websites. Most index resources by subject area, grade level, and other characteristics. They usually briefly describe the resource and also critique or rate it.

Although most existing guides are available only in English, they can be of use in planning basic education in developing countries. Where English is a language of instruction, they may be directly applicable. In addition, some of the referenced software and websites are available in two or more languages. Finally, these guides and portals might serve as models for countries that want to prepare their own guides. The following are several guides and portals that might be of interest.

**American Library Association’s Notable Children’s Websites** <http://www.ala.org/alsc/ncwc.html>

This is a portal to high quality educational websites for children.

**Best Web Sites for Teachers** [www.iste.org](http://www.iste.org)

Available only in print. It can be purchased through

**Bologna New Media Prize Winners**

The prizewinners are currently listed toward the bottom of the homepage of <http://www.childrenssoftware.com>. International prizes are given for CD-ROMs, Internet sites, video games, and “smart toys.” The prizes are awarded for innovation, educational value, and ease-of-use.

**Children’s Software Revue**

<http://www.childrenssoftware.com>

Assesses more than 4,000 software titles.

**ConnSENSE**

<http://www.ucc.uconn.edu/~wwwpcse/CSBull.html>

Assesses software for use by students with disabilities.

**Educational Software Institute** [www.edsoft.com](http://www.edsoft.com)

Has a searchable database of 8,000 titles to help you locate software by several characteristics including bilingual or multilingual presentations. About 250 titles are available in

two or more languages. It doesn't rate the software, but does describe it.

### Only the Best

Available only in print. It can be purchased through [www.ascd.org](http://www.ascd.org). This is a guide to educational software that has been rated highly by one or more of 25 organizations that rate such software. An index is included.

### The Educational Software Selector (TESS)

Available only on CD-ROM. Ordering information is at <http://www.epie.org>, but orders must be mailed in. This is the oldest and largest guide to educational software, covering 19,000 software packages.

## Conducting Your Own Assessments

Many scholars and organizations have developed criteria for judging educational software and websites. They usually specify criteria about platform requirements, goals and objectives, the content, the pedagogy, ease of use, and costs. An example of these criteria is given below. The criteria can be modified according to your needs.

### Platform Requirements:

- What hardware and operating system is needed to run the software?
- What browser capabilities are needed to use the website?

### Goals and Objectives:

- What subject areas are covered?
- What age or grade level(s) are targeted?
- What are the instructional goals and objectives?

### Content:

- Does the content meet the curriculum standards of the country or district?
- Is the content appropriately comprehensive?
- Is the content correct and up-to-date?
- Are controversial issues treated in a balanced manner?
- Are women and minorities depicted with respect?

### Pedagogy:

- Does the software or website have multiple means of motivating students?
- Is content sequenced to facilitate learning?
- How much does the software or website make use of the following instructional strategies:
  - "Lecturing"
  - Drill and practice
  - "Tutoring"
  - Games and simulations with feedback
  - Collaborative projects
  - Others?

- Are there alternative paths so that students who need more or different guidance can get it?
- Is the student given some guidance but also required to think?
- Does the resource challenge students' imagination?
- Is the resource modifiable by the teacher to integrate it with other learning activities in a class?

### Ease of Use:

- Is the software easy to install?
- Is there printed or online guidance on how to use the software or website?
- Are the controls intuitive and easy to locate and use? Are they consistent through modules?
- Can the student go back several steps and redo them?
- Do the Web pages download fully in no more than 15 seconds?
- Can the student get help at any point that is tailored to where he or she is?
- Are software or website malfunctions infrequent?
- Does the website have a stable URL?
- Is the website server in operation almost always when needed?
- Is there technical support available by e-mail or phone from a live person if the teacher and other local staff cannot figure out how to use the software or website?
- Does each Web page have a link back to the home page?

### Cost:

- What are the initial costs for a single copy and for multiple copies?
- Are there annual renewal costs?
- What are the costs for upgrading to the next version of the software?

## Conducting the Assessment

There are several ways to conduct the assessment of software and websites. Most commonly administrators and teachers will record their responses to assessment criteria like those cited above while they practice using the resource. They deliberately try to make mistakes to see how the resource responds. At least two people should assess a given resource, and if they cannot easily reconcile any substantial disagreements, a third person should also assess the resource. Then disagreements that cannot be reconciled are usually averaged.

Another approach is to have several students use the software and websites while the administrators or teachers watch. After the students finish they may also be asked for their impressions. By the time students are about 12 years old, they may only be nominally supervised while testing the resource and asked to record their responses directly on an assessment form.